

REMARKS

Claims 1, 3, 4, 6, 7, 9, 10 and 12-21 are presented for consideration, with Claims 1 and 7 being independent.

Editorial changes have been made to the specification. Independent Claims 1 and 7 have been amended to further distinguish Applicants' invention from the cited art. Support for the amendments to Claims 1 and 7 can be found, for example, in Figures 4-9 and the accompanying specification on page 33, line 1, et seq. In addition, Claims 20 and 21 have been added to provide an additional scope of protection, and Claims 2, 5, 8 and 11 have been cancelled without prejudice or disclaimer of the subject matter recited therein.

Claims 1, 2, 7, 8, 12 and 13 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Ikarashi '036 in view of Takao (JP '743). In addition, Claims 3-6, 9-11 and 14-19 stand rejected as allegedly being obvious over Ikarashi and Takao and further in view of Okuno '745 (Claims 3 and 9), Fujii '588 (Claims 4-6, 10 and 11) or Suzuki '416 (Claims 14-19). These rejections are respectfully traversed.

Applicants' invention as set forth in Claim 1 relates to an image forming apparatus including a plurality of electron-emitting devices arranged in a matrix of rows and columns, and fluorescent substances for emitting light by electrons emitted by the electron-emitting devices. The apparatus further comprises frame rate conversion means for converting a frame rate of an input image signal. As amended, the frame rate conversion means converts the frame rate of the input image signal so that a luminance characteristic of the fluorescent substances depending on an electron irradiation time for the fluorescent substances substantially has a linearity.

Claim 7 relates to an image forming apparatus having a plurality of electron-emitting devices arranged in a matrix of rows and columns, and fluorescent substances for emitting light by electrons emitted by the electron-emitting devices. The apparatus further comprises signal processing means for converting a signal for an interlaced scanning into a signal for a non-interlaced scanning. In Claim 7, the signal processing means converts the signal so that a luminance characteristic of the fluorescent substances depending on an electron irradiation time for the fluorescent substances substantially has a linearity.

In accordance with Applicants' claimed invention, a high performance image forming apparatus can be provided.

The primary citation to Ikarashi relates to a drive circuit for an electroluminescence display device intended to be able to correct a color shift. As shown in Figure 1, the drive circuit includes a power supply circuit 11, variable frequency oscillator circuit 12, voltage booster circuit 13, impedance matching circuit 14, and a control section 15.

The Office Action acknowledges that Ikarashi does not provide frame rate conversion means, but compensates for this deficiency with the secondary citation to Takao, which is alleged to provide an electron-emitting device in which a decrease in light is compensated for by increasing a display frame rate.

It is respectfully submitted, however, that in Takao the decrease in light emission brightness is adjusted by increasing the frequency of the drive signal--not by increasing the display frame rate. Takao thus fails to teach or suggest converting the frame rate or converting an interlaced scanning signal so that a luminance characteristic of the fluorescent substances depending on an electron irradiation time for the fluorescent substances substantially has a linearity, as now set forth in the claims.

Accordingly, without conceding the propriety of combining Ikarashi and Takao in the manner proposed in the Office Action, such a combination still fails to teach or suggest Applicants' claimed invention.

Therefore, reconsideration and withdrawal of the rejection of Claims 1, 2, 7, 8, 12 and 13 under 35 U.S.C. §103 is respectfully requested.

Furthermore, it is submitted that the tertiary citations fail to compensate for the deficiencies in Ikarashi and Takao as discussed above with respect to independent Claims 1 and 7.

Okuno relates to a scanning line interpolation device and was cited for converting an interlaced format into a non-interlaced format. Okuno is not understood, however, to convert the input signal so that a luminance characteristic of the fluorescent substances depending on an electron irradiation time for the fluorescent substances substantially has a linearity, as recited in Claim 7. Fujii relates to an organic electroluminescent device and was cited for its teaching of pulsewidth modulation. Suzuki relates to an electron-emitting display device and was cited for applying 10 kV to an electrode. These tertiary citations fail, however, to compensate for the deficiencies in independent Claims 1 and 7 as discussed above.

Accordingly, reconsideration and withdrawal of the remaining rejections under 35 U.S.C. §103 is respectfully requested.

Therefore, it is submitted that Applicants' invention as set forth in independent Claims 1 and 7 is patentable over the cited art. In addition, dependent Claims 3, 4, 6, 7, 10 and 12-21 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.